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10/047,842	01/15/2002	Ronald P. Doyle	RSW920010182US1	5659

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EXAMINER	
LU, KUEN S	

ART UNIT	PAPER NUMBER
2177	2

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/047,842	DOYLE ET AL.
	Examiner	Art Unit
	Kuen S Lu	2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-8, 10-11, 13 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papierniak et al. (U.S. Patent 6,169,997, hereafter "Papierniak") and further in view of Davis et al. (U.S. Patent 5,918,229, hereafter "Davis").

As per Claims 1, 20 and 21, Papierniak teaches the following:

"storing content in a computing network" at Fig. 1 and col. 3, lines 16-18 by showing a network system, including an internet data processing computer;

"receiving hints regarding relationships among files" at Fig. 5 and col. 7, line 62 – col. 8, line 3 where the page map is the hints showing relationships between web page files;

Papierniak does not specifically teach "using the received hints to allocate storage for the files", although Papierniak teaches storing the file relationships page map at Fig. 4.

However, Davis teaches using files relationships structure, the directory structure, and file inode map to allocate storage to allocate storage for files at Fig. 3 and col. 8, line 60 – col. 9, line 9.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Davis's reference into Papierniak's by allocating and storing together both the files relationships structure and web page files

because both references are dedicated to efficiently accessing and storing web page files. The combination of the references would have made Papierniak's system having files allocated and stored on the basis of their relationships such that accessing to them would have followed the relationships structure. The structured storage system created based on the references would have provided more reliable and more fault tolerant operation and would have had the ability to dynamically move in response to network activity levels and access patterns in order to optimize performance and minimize node access times.

As per claim 2, Papierniak teaches "the hints are created by a content management system" at Fig. 1, elements 102.s' and 108, col. 4, lines 1-11 where internet servers and processing computer form the content management system for creating the files relationships page map.

As per claim 3, Papierniak teaches "the hints specify one or more files that are likely to be referenced within a temporal proximity of a reference to a selected one of the files" at Fig. 4, element 412 and col. 7, lines 38-43 where the files relationships page map is created with records (the page files) timestamps close to that of a particular base record.

As per Claim 4, Papierniak teaches "the selected file is a web page" at Fig. 5, elements 502.s' and col. 7, line 62 – col. 8, line 3 where the selected records are web page files.

As per claim 5, Papierniak teaches "the one or more files comprise at least one of (1) one or more embedded objects of the web page and (2) one or more other web pages

which are hyperlinked to the web page" at Fig. 6, elements (1) – (4) and col. 8, lines 4-12 where page files may contain links or levels 2 and 3 web objects.

As per claim 6, Papierniak teaches "the hints are created by a content authoring tool, and wherein the hints specify one or more files that are likely to be referenced within a temporal proximity of a reference to a selected one of the files" where page files relationships page map is created by a utility application which identifies the access status for web page files to be included as records in the map (col. 7, lines 12-13). Furthermore, the files relationships page map is created with records (the page files) timestamps close to that of a particular base record (col. 7, lines 38-43).

As per claim 7, Papierniak teaches "the selected file is a text document" at col. 10, lines 11-22 where the page files are text format documents.

As per claim 8, Papierniak teaches "the one or more files comprise one or more objects which are embedded within or referenced by the text document" at Fig. 2, elements 204-216 are the objects embedded in the page file.

As per claim 10, Papierniak teaches "the receiving step is performed by a file system and the using step is performed by a storage system" at Fig. 1, elements 112, 113 and 118, and col. 5, lines 33-42 where web page file relationship, page map, is built by receiving information of page log and web pages. The page map information is loaded into data warehouse to store.

As per claim 11, Papierniak teaches "the hints are encoded in a markup language notation" at Fig. 9, element 914 and col. 10, lines 23-24 where page map stored in content page format.

As per claim 13, Papierniak teaches the following:

"receiving a request for one of the files" at Fig. 3 and col. 5, lines 57-58 by sending request to server, via internet, for getting a web page file;

"retrieving the requested file from the allocated storage" at Fig. 3 and col. 5, lines 58-62 by retrieving web page file from repository; and

"returning the retrieved file" at Fig. 3, col. 5, lines 62-64 by sending the retrieved web page file, via internet, to the user computer.

2. Claims 9 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Papierniak et al. (U.S. Patent 6,169,997, hereafter "Papierniak") in view of Davis et al. (U.S. Patent 5,918,229, hereafter "Davis"), as applied to Claims 1-8, 10-11, 13 and 20-21, and further in view of Candan et al. (U.S. Patent 6,549,896, hereafter "Candan").

As per claim 9, the combined Papierniak-Davis reference teaches referring web page files by using temporal proximity as described in Item 1 for rejecting claim 3.

The combined reference does not specifically teach "the hints further specify weights which describe a degree of dependency for the relationships".

However, Candan teaches assigning a penalty value to the links between web pages files based on the distance of the links and the relevance of the pages at col. 15, lines 50-57.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Candan's reference with Davis and Papierniak's by applying the relevance value to web page file and penalty value to link of Papierniak's system because all the three references are devoted to efficiently

accessing data from a global file system. The combination of the references would have allowed the records of the page map (page files relationship) be quantized, sorted and stored sequentially such that the performance for accessing page files would have been further improved.

As per claim 14, Papierniak teaches "using the received hints to create dependency information which is stored by a receiver of the hints in temporary or permanent storage" at Fig. 1, element 118 and col. 6, lines 7-12 where the web page files dependency, the page map is stored in the warehouse; and
"receiving a request for one of the files" at Fig. 3 and col. 5, lines 57-58 by sending request to server, via internet, for getting a web page file.

Neither Papierniak nor Dvias specifically teach "determining a read request strategy for the requested file by accessing the stored dependency information".

However, Candan further teaches retrieving web pages by discovering the underlying relationships embedded in the links at col. 7, lines 26-37.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Candan's reference with Davis and Papierniak's by applying the using the web page files dependency or relationships to retrieve web page files because all the three references are devoted to efficiently accessing data from a global file system. The combination of the references would have utilized page map like an index for retrieving web page files directly and thus the performance for accessing page files would have been further improved.

As per claim 15, Candan further teaches "the read request strategy comprises determining selected ones of the files which should be pre-fetched along with a read of the requested file" at col. 15, lines 43-47 by using convergence vector for pre-fetching the web content.

As per claim 16, Candan further teaches "the step of determining selected ones further comprises comparing a dependency weight of the files to a pre-fetch threshold" at col. 12, lines 29-54 where convergence vector is described, and at Fig. 9A and col. 15, lines 33-47 where the convergence vector is utilized to pre-fetch the web content.

As per claim 17, Candan further teaches "the pre-fetch threshold is used to tune the pre-fetch operation" at col. 15, line 58 – col. 16, line 5 where the end-user navigation log is maintained for determining penalty values of links of navigation which affects the values of convergence vector for pre-fetching.

As per claim 18, Papierniak teaches the following:

"retrieving the requested file from the allocated storage" and "retrieving the selected ones from the allocated storage " at Fig. 3 and col. 5, lines 58-62 by retrieving web page file from repository; and

"returning the retrieved file" at Fig. 3, col. 5, lines 62-64 by sending the retrieved web page file, via internet, to the user computer.

Candan further teaches "caching the retrieved selected ones" at col. 2, lines 5-13 where caching system directly sends web content from cache to the user.

As per claim 19, Candan further teaches "the step of caching the retrieved requested file" at col. 2, lines 5-13 where caching system directly sends web content from cache to the user.

3. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Papierniak et al. (U.S. Patent 6,169,997, hereafter "Papierniak") in view of Davis et al. (U.S. Patent 5,918,229, hereafter "Davis"), as applied to Claims 1-8, 10-11, 13 and 20-21, and further in view of Kolar et al. (U.S. Publication 2004/0064500, hereafter "Kolar").

As per claim 12, the combined Papierniak-Davis reference teaches web page file relationship, the page map is encoded in markup language as described in Item 1 fro rejecting claim 11.

The Papierniak-Davis combined reference does not specifically teach "the markup language notation is Extensible Markup Language ("XML") notation".

However, Kolar teaches that text readable metafile XML comprises a structure corresponds to a specific media.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Kolar's reference with Davis and Papierniak's by including XML language as one encoding for the web pages file relationship, the page map. The combination of references would have been obvious to an ordinary skilled in the art because XML syntax can be utilized to bundle text, video, graphic image and hyperlink.

Conclusions

4. The prior art made of record

A. U.S. Patent 6,169,997

B. U.S. Patent 5,918,229

C. U.S. Patent 6,549,896

D. U.S. Publication 2004/0064500

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

E. U.S. Publication 2002/0184211

F. U.S. Publication 2002/0078095

G. U.S. Patent 6,574,634

H. U.S. Patent 5,968,125

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is 703-305-4894. The examiner can normally be reached on 8 AM to 5 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on 703-305-9790. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Kuen S. Lu
Patent Examiner

May 11, 2004

JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100